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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,535

08/07/2006

Rodney John Truce

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THE WEBB LAW FIRM, P.C.
700 KOPPERS BUILDING
436 SEVENTH AVENUE
PITTSBURGH, PA 15219

EXAMINER

SORKIN, DAVID L

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

08/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,535	Applicant(s) TRUCE ET AL.	
	Examiner DAVID L. SORKIN	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-63 is/are pending in the application.
- 4a) Of the above claim(s) 33-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 33-40, drawn to a method of designing.

Group II, claims 41-50, drawn to a method of generating turbulent eddies in a fluid stream with two types of particles

Group III, claims 51-63, drawn to an apparatus having formations.

2. The inventions listed as Groups I and II, I and III, or II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the only arguably share feature among some of the claims of the different groups is "formations", but this does not make a contribution over the prior art as evidenced by Streiff et al. (US 5,456,533); Christel et al. (US 2002/0175079) and Tsukada (US 5,378,063).

3. During a telephone conversation with Richard L. Byrne on 24 August 2009 a provisional election was made with traverse to prosecute the invention of Group III, claims 51-63. Affirmation of this election must be made by applicant in replying to this Office action. Claims 33-50 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

Art Unit: 1797

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 51-61 are rejected under 35 U.S.C. 112, first paragraph, because independent claim 51 is a "single means claim" in that claim 51 recites "means for generating..." alone, rather than in combination with one or more other elements. See *In re Hyatt*, 218 USPQ 195, 197 (Fed. Cir. 1983) and section 112, sixth paragraph, which reads "An element in a claim to a combination..."

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 51-59 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Streiff et al. (US 5,456,533). Streiff discloses an apparatus having a duct (7) and a plurality of vane members (30) in spaced relationship across the duct. Strieff discloses an apparatus comprising an array of formations (30). Applicant is reminded that "the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself." *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA

Art Unit: 1797

1967) and “Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). The spacing between the vane members is on the order of the width of the vane members (see Fig. 2). The apparatus further comprises additional rows of spaced vane members across the duct to form an array of vane members, the additional rows being spaced longitudinally along the duct (see Figs. 2 and 5). The longitudinal spacing between the additional rows is on the order of 1 to 3 times the width of the vane members (see Figs. 2 and 5).

9. Claims 51-59 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Christel et al. (US 2002/0175079). Christel discloses an apparatus having a duct and a plurality of vane members (see Figs. 1a - 1d) in spaced relationship across the duct. Christel discloses an apparatus comprising an array of formations (see Figs. 1a - 1d). Applicant is reminded that “the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself.” In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and “Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). The spacing between the vane members is on the order of the width of the vane members (see Figs. 1a - 1d). The apparatus further comprises additional rows of spaced vane members across the duct to form an array of vane members, the additional rows being spaced longitudinally along the duct (see Figs. 1a - 1d). The

Art Unit: 1797

longitudinal spacing between the additional rows is on the order of 1 to 3 times the width of the vane members (see Figs. 1a - 1d).

10. Claims 51-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsukada (US 5,378,063). Tsukada discloses an apparatus having a duct and a plurality of vane members (20) in spaced relationship across the duct. Tsukada discloses an apparatus comprising an array of formations (20). Applicant is reminded that “the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself.” In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and “Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). The spacing between the vane members is on the order of the width of the vane members (see Figs. 6 and 7). The apparatus further comprises additional rows of spaced vane members across the duct to form an array of vane members, the additional rows being spaced longitudinally along the duct (see Figs. 6 and 7). The longitudinal spacing between the additional rows is on the order of 1 to 3 times the width of the vane members (see Figs. 6 and 7). Each vane member has a Z-shaped cross section (see Fig. 3). Each vane member has spaced tooth portions along its longitudinal edges (see Fig. 2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID L. SORKIN whose telephone number is (571)272-1148. The examiner can normally be reached on Mon.-Fri. 7:30AM-4:00PM.

Art Unit: 1797

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID L. SORKIN/
Primary Examiner, Art Unit 1797